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10/826,114

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William Christopher Hardy

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EXAMINER

NGUYEN, PHUNG HOANG JOSEPH

ART UNIT

PAPER NUMBER

2614

NOTIFICATION DATE

DELIVERY MODE

07/03/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@verizon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,114	<b>Applicant(s)</b> HARDY ET AL.	
	<b>Examiner</b> PHUNG-HOANG J. NGUYEN	<b>Art Unit</b> 2614	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-44 and 50 is/are allowed.
- 6) ☒ Claim(s) 1, 21-27 and 45-49 is/are rejected.
- 7) ☒ Claim(s) 2-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/25/04, 10/7/04, 2/28/05, 8/29/05, and 4/16/07</u> .         | 6) <input type="checkbox"/> Other: _____                          |



**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-50 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 6,370,120. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-50 of the present invention are similar in scope to claims 1-28 of US Patent No. 6,370,120 with obvious wording variation with broader limitations. For example:

Claim 1 of the present invention application (Serial # 10/826,114)	Claims 1,7-8, 20 and 25-26 of US 6,370,120
A method for monitoring perceived quality of a packet-switch voice service...	A method of evaluating the quality of packet-switched voice signal ...
receiving a packetized voice communication via the packet-switched voice service;	selecting a plurality of objective characteristics for a voice connection being transmitted across a packet- switched network, at least one of the objective characteristics comprising packet loss;
deriving user perceived quality of voice data from the at least one objective measurement; and	selecting a plurality of quality characteristics of a voice signal, each of the quality characteristics affecting the quality of the voice signal as perceived and described by users;
obtaining at least one objective measurement from the received packetized voice communication;	generating a plurality of evaluation voice messages by varying selected ones of the plurality of objective characteristics for each of the evaluation voice messages;
	developing a transform that can be used to translate measurements of each of the objective characteristics into subjective quantifications of each of the plurality of quality characteristics;

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<p>providing the user perceived quality of voice data, the steps of receiving, obtaining, deriving, and providing being performed in real-time.</p>	<p>empirically acquiring user perception data by having at least one test subject listen to the evaluation voice messages and rate the quality of each evaluation voice message as one of a plurality of subjective quality ratings and also having the at least one test subject provide an overall quality opinion score of each of the evaluation voice messages;</p> <p>developing an effects model based on the empirically acquired user perception data, the its effects model providing perceived quality as a function of the subjective quantifications of the quality characteristics; and</p> <p>determining a probability that the packet-switched voice signal will fall within a selected one of the subjective quality ratings by measuring each of the objective characteristics and then translating measurements of the objective characteristics into subjective quantifications of each of the plurality of quality characteristics, the subjective quantifications being used with the effects model to determine the probability that the packet-switched voice signal will fall within a selected one of the subjective quality ratings.</p>
<p>Claims 1, 2, 4, 28, 30, 31, 49 and 50 discussing the monitoring activities in REAL TIME.</p>	<p>Claims 7-8, 20 and 25-26 discuss monitoring or evaluating in REAL TIME.</p>
<p>Claims 14, 39, 46 claiming a mean opinion score (MOS).</p>	<p>Specification discloses a mean opinion score (MOS).</p>
<p>Claims 15, 40 and 47 claiming steps to compute the unusable, difficult, or irritating (UDI).</p>	<p>Specification discloses (UDI).</p>

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From the above evidence, it is clear that the claim limitations of the present invention are clearly covered by the limitations of the US Patent 6,370,120.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**4. Claims 1, 21-22 and 49 are rejected under 35 U.S.C.102 (e) as being anticipated by Zhu et al (US Pat 5,768,527).**

As to claim 1, Zhu teaches a method for monitoring perceived quality of a packet-switched voice service in a network (see Abstract and fig. 5), the method comprising:

receiving a packetized voice communication via the packet-switched voice service (*i.e.*, *The packetizer (510) is operably coupled to the rate scaler (508) and is utilized to packetize the output of the rate scaler (508) using a predetermined scheme, col. 10, lines 51-53).*

obtaining (*i.e.*, *obtaining the information from the transmission device, col. 9, line 24. See fig. 4 for details of how the information loss rate in the packet network is obtained, col. 10, lines 5-17), at least one objective measurement from the received packetized voice communication (i.e., estimated information loss*

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*rate, col. 4, line 27; or a roundtrip delay, col. 4, line 2; or delay jitter, col. 5, line 48).*

deriving user perceived quality of voice data from the at least one objective measurement (i.e., perceived service quality, col. 6, line 17: or packet retransmission is perceived by the user as an initial delay, col. 4, line 43).

providing the user perceived quality of voice data, the steps of: receiving (i.e., *Fig. 11 shows the steps of receiving and in real-time playing out a multimedia file*), obtaining (i.e., *obtaining the information from the transmission device, col. 9, line 24. See fig. 4 for details of how the information loss rate in the packet network is obtained, col. 10, lines 5-17*), deriving (i.e., *see fig. 2 for deriving or generating a multimedia bitstream from a received packets, col. 4, lines 49-63. See fig. 3 to see packet processor 304 providing the loss to feedback message generator 314, col. 7, lines 44-63*) and providing being performed in real-time (i.e., *real time multimedia streaming, col. 1, line 5; also Abstract*). *See entire the patent for the details on these claimed steps as being performed in the real time*).

As to claims 21-22, Zhu teaches the step of obtaining includes the step of obtaining at least one objective measurement of a reconstituted digital representation of the received packetized voice communication, the reconstituted digital representation being obtained from a receiver codec (i.e., *FIG. 10 shows one detailed embodiment of a modem that includes an auxiliary channel multiplexer (MUX) (1012) and an error estimator for p' (p' Est) (1008) in accordance with the present invention... The data pump (1006) is coupled to a*



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*host processor (host proc) (1010) that passes information to the multiplexer (1012), col. 12, lines 10-24).*

As to claim 49, Zhu teaches a system for monitoring the quality of a packet-switched voice service in a network, the system (*see Abstract and fig. 5*), comprising:

a measurement device (*i.e., end to end packet loss rate estimator 310 of fig. 3 and fig. 5*) configured to obtain at least one objective measurement from a packetized voice communication, the at least one objective measurement being obtained in real-time (*i.e., obtaining the information from the transmission device, col. 9, line 24. See fig. 4 for details of how the information loss rate in the packet network is obtained, col. 10, lines 5-17*),

a processor (*i.e., packet processor 304 of fig. 3 and 4*) coupled to the measurement device (*i.e., end to end packet loss rate estimator 310 of fig. 3 and fig. 5*), the processor being configured to derive user perceived quality of voice data from the at least one objective measurement and provide the user perceived quality of voice data in real-time (*i.e., the packet loss rate estimator (310) is operably coupled to the packet processor (304) and is utilized to estimate the end-to-end packet loss rate from the server to the client, col. 7, lines 9-11*).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**6. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al (US Pat 5,768,527) in view of Randic (US Pat 6,275,797).**

As to claims 23-27, Zhu teaches the step of obtaining includes the step of obtaining at least one objective measurement of a reconstituted digital representation of the received packetized voice communication, the reconstituted digital representation being obtained from a receiver codec (*i.e.*, FIG. 10 shows one detailed embodiment of a modem that includes an auxiliary channel multiplexer (MUX) (1012) and an error estimator for  $p'$  ( $p'$  Est) (1008) in accordance with the present invention... The data pump (1006) is coupled to a host processor (host proc) (1010) that passes information to the multiplexer (1012), col. 12, lines 10-24).

Zhu does not explicitly teach transmitting the user perceived quality of voice data to a quality indicator disposed in a user transceiver set; transmitting the user perceived quality of voice data to a network management system; providing a raw distortion measurement; providing a normalized score corresponding to the distortion measurement; and determining a kurtosis value of a distribution of the differences.

Randic teaches transmitting the user perceived quality of voice data to a quality indicator (*i.e.*, quality factor is an objective indicator of transmission and processing quality of the communication link, col. 2, lines 47-55);

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disposed in a user transceiver set; transmitting the user perceived quality of voice data to a network management system (*also col. 2, lines 47-55*); providing a raw distortion measurement (*i.e., distortion patterns arise which can be used to identify the source of distortion, col. 2, lines 30-46*); providing a normalized score corresponding to the distortion measurement (*i.e., used as a basic measurement of the goodness of the voice path under test, col. 6, lines 37-43*); and determining a kurtosis value of a distribution of the differences (*i.e., an objective measurement standard for evaluating the quality of voice signals transmitted over packet based data networks, col. 1, lines 34-36. This is what Randic admitted that the prior arts do not teach and this is what Randic wants to overcome*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Randic into the teachings of Zhu for the purpose of generating transmissible voice to test predetermined voice path characteristics and also to test the received voice signals are interpreted by a speech recognition engine which identifies speech patterns in the received voice signals. The speech patterns are then compared to the reference speech patterns of the voice signals sent from the sending computer and a voice path quality factor is generated as a result of this comparison. Ultimately the voice quality factor can be used to fine tune and manage communication networks which transmit digitized voice data (Randic: Abstract).

**7. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al (US Pat 5,768,527) in view of Elliott et al (US Pat 6,335,927**

As to claim 45, Zhu does not explicitly teach computer system having a graphical user interface including a display and a selection device, a method for monitoring the quality of a packet-switched voice service, the method comprising: receiving an alarm signal from the computer system, the alarm signal being generated in response to determining that the quality of voice over the packet-switched voice service is below a predetermined level; displaying a message in response to receiving the alarm signal; selecting an amplifying display icon with the selection device; displaying a human readable description of the alarm signal in response to the step of selecting; and displaying at least one indicator of likely user perception of the quality of voice carried over the packet-switched voice service.

Elliott teaches the Display Alarms component 412, which runs primarily on the Graphics Server 308 and the Alarming Server 302, includes the Graphical User Interface (GUI) and associated software which supports topology and alarm presentation, using data supplied by Process Events 402. It also supports user interactions, such as alarm clears, acknowledgments, and trouble ticket submissions. It inputs these interactions to Process Events 402 for storing and required data updates. The Display Alarms process 412 is shown in greater detail in FIG. 8 (col. 109, line 61 – col. 110, line 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Elliott into the

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teachings of Zhu for the purpose of providing the visual interaction to the users which seems convenient and important for using and for marketing.

**8. Claim 46-48 rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al (US Pat 5,768,527) in view of Elliott et al (US Pat 6,335,927 further in view of Randic (US Pat 6,275,797).**

As to claim 46-48, Zhu in view of Elliott does not teach a mean opinion score (MOS). Furthermore, neither Zhu nor Elliott teaches the at least one indicator includes a distortion indicator.

Randic teaches the at least one indicator includes a mean opinion score or MOS, (*col. 2, lines 12-13*). *Furthermore, Randic teaches distortion patterns arise which can be used to identify the source of distortion, col. 2, lines 30-46. This indicates that there are some unusable data or call*);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Randic into the teachings of Zhu in view of Elliott, for the purpose of providing the visual indication, by viewing the distortion indicator, of the current condition of the quality check.

#### ***Allowable Subject Matter***

9. Claim 2 is objected to as being dependent upon the rejected base claim 1, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 3-20 are objected because they depend on objected claim 2.

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11. Claims 28 and 50 are allowed. Claims 29-44 are also allowed because these claims depend on claim 28.

12. The following is an examiner's statement of reasons for allowance:

The prior arts of record fail to teach, or render obvious, alone or in combination a system for monitoring the quality of a packet-switched voice service in a network, the system comprising: a memory element configured to store an N dimensional reference matrix that mathematically models likely user perception of acceptable quality of voice service, the reference matrix being derived from a plurality of objective voice measurements known to affect user perception of voice quality, wherein N is greater than or equal to two.

### **INQUIRY**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUNG-HOANG J. NGUYEN whose telephone number is (571)270-1949. The examiner can normally be reached on Monday to Thursday, 8:30AM - 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571 272 7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 26, 2008

/Phung-Hoang J Nguyen/  
Examiner, Art Unit 2614

/Curtis Kuntz/  
Supervisory Patent Examiner, Art Unit 2614